# INSPEC

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In This Issue



***Wishing everyone Happy Holidays and a Prosperous New Year***

## WELCOME BACK SUSAN LINCOLN

**By Doug Hartman**

I am pleased to announce that long- time friend and specifications consultant, Susan Lincoln, CCS CCCA, has joined our team again. Having recently returned to Dallas after living in China for a couple of years, she brings her always contagious and cheerful smile and can-do attitude to our group of specifiers. Susan's experience as a specifications consultant dates back to 1995 and over that time has worked primarily for Inspec but also spending time at HKS-Dallas and as director of specifications at Perkins + Will-Dallas. We welcome those clients which Susan brings with her from her independent practice and pledge to continue the same level of service to which you have been accustomed.

## LEEDing THE WAY

**by Doug Hartman**

We are pleased to report 7 new projects that achieved USGBC LEED certification over the past year. We are currently involved in administering 13 projects in progress (4 of which are under final review by USGBC),

And as I am sure most of you are aware, on October 1, 2013 the City of Dallas Green Building Ordinance Phase 2 requirements went into effect, including a new prohibition on design professionals self-certifying compliance.

Inspec has again received certification from the City as a Green Building Provider and welcomes the opportunity to assist you in meeting these requirements and currently is administering 7 projects. Contact Allen Cornett at acornett@inspeconline.com for more information.

## A GREENer Dallas

**by Allen Cornett**

On October 1, 2013 the City of Dallas Green Building Ordinance Phase 2 requirements went into effect. The bar has been raised for residential and commercial projects. There are five compliance options available for residential projects and two compliance options available for commercial projects to meet the Phase 2 requirements.

**The five residential compliance options are as follows:**

- **Dallas Prescriptive path. Applicable provisions are mandatory. Prescriptive path categories include; Stormwater, Water Efficiency, Energy Efficiency, Heat Island, and Indoor Air Quality.**
- **Green Build Texas Protocol v3 (2012) path. Applicable provisions are mandatory.**
- **ICC 700 – 2008 or later path. Document minimum points required for certification.**
- **LEED for Homes 2008 with addenda path. Document minimum points required for certification. 1 point must be included form the water category.**

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- **Minimum Certification requirements under an equivalent green building program approved by the Building Official.**

The two commercial compliance options are as follows:

- **Chapter 61 path. Based on Dallas adopted sections of the 2012 IgCC (International Green Construction Code) with amendments. Applicable items are mandatory.**

- **Minimum points for certification under an equivalent green building program approved by the Building Official. LEED 2009 (or later) or ASHRAE 189.1 have been approved. Formal certification does not need to be obtained, only that the minimum points for certification be achieved.**

In addition to the residential and commercial compliance options listed above, projects can meet the Phase 2 requirements of the Dallas Green Building Ordinance by attempting LEED certification under one of the LEED 2009 or newer rating systems.

If the compliance path changes after the plan review has been completed then another plan review will have to be performed for the newly selected compliance path.

Each option has checklists available for new construction, additions and first time build-outs. Here is a link to the residential and commercial checklists available for each option:

http://www.dallascityhall.com/building_inspection/phase_two.html

And here is a link to an overview document created by the City of Dallas:

http://www.dallascityhall.com/building_inspection/pdf/Overview.pdf

Lastly, the following is a link to the 2012 City of Dallas Green Ordinance:

http://www.dallascityhall.com/building_inspection/pdf/2012_City_of_Dallas_Green_Ordinance.pdf

**Contact INSPEC early on in the design process if you are unsure about which commercial compliance path is best suited for your project.**

## THE PRICE OF PROGRESS

**by Kevin Wang**

It is certainly an exciting time to be involved in the design and construction industry. Innovations in new materials and systems have given designers more options to serve the Owners' needs. An increased general awareness of sustainability issues, both with incentive-based performance (LEED, GreenGlobes, etc.) as well as building codes and local jurisdictions legislating minimum threshold performance, have driven the materials side of things towards more environmentally responsible products and fabrication methods. While all of this is a positive for the industry as a whole, there are some unintended side effects that we should all be aware of moving forward.

Increased awareness of indoor air quality has brought about the emergence of new water-based, low-VOC flooring adhesives in recent years. The focus on unhealthy particulates in the air promotes health of building users, but an unforeseen side effect has been more instances of flooring adhesive failures. The older solvent-based adhesives may have emitted more airborne toxins, but once they cured, the adhesion to concrete subfloors was more resistant to moisture under the structure. The newer adhesives have proven to be less forgiving, and possibly could re-hydrate under conditions with enough moisture migrating up through the slab. Compounding the situation are new practices in concrete design and placement, including increased fly ash content making denser concrete less amenable to bonding with adhesives, and lightweight concrete having more void spaces for moisture to accumulate and transmit through the slab. These innovations, along with improper placement practices, such as sand blotter layers and not maintaining the integrity of the under-slab vapor retarder, have contributed to an increase in flooring adhesive failures in recent years. While there are new products presently being developed and marketed that perform better under these conditions, the lesson to be learned is that the Architect needs to be more proactive and aware of the preparation of the concrete floor slab in new construction, including limiting the water/cement ratio to 0.45.

The energy conservation component of sustainability is of particular importance. By now most of the design industry should be aware of the continuous insulation requirements in the new International Energy Conservation Code that is included as part of IBC 2012. Previously, especially locally in the Dallas-Ft. Worth area, we have seen mostly batt insulation within the stud cavity for thermal protection. With the new continuous insulation requirements, which are intended to mitigate the thermal bridging effect from the masonry veneer through the framing into the building interior, a number of new solutions are available. One practice that is becoming more popular is foamed in place insulation in conjunction with some form of board insulation outboard of the stud. When most urethane foam insulation cures in place, though, it forms a vapor-retarding skin on the outside face. This vapor-retarding layer within the wall cavity may or may not be desirable depending on where the dew point occurs. Other products that have come on the market recently are a combination insulation/sheathing product with a foil facing that also acts as a vapor retarder. Presently the safest solution (in our opinion) appears to be an unfaced extruded polystyrene board insulation or mineral wool blanket, neither of which impede the transition of vapor.

Another energy conservation issue is one of exterior glazing. The IECC and ASHRAE 90.1 have set thresholds for maximum Solar Heat Gain Coefficient (SHGC) for exterior glazing. With each successive release of the standard, the number decreases, which is intended to result in less of a heat load to mitigate for the building. The unfortunate side effect of this requirement is that the less heat that is absorbed, the more that must be reflected. An interesting case, of which I am sure everyone had heard, is the Museum Tower, a 44-story condominium building recently completed in Downtown Dallas. Using high-reflectivity glass on its mostly glass façade, the building has unintentionally ended up reflecting a large amount of light and heat into the courtyard of the adjacent Nasher Sculpture Center. In response, the City of Dallas, has proposed a new ordinance earlier this year that restricts the glass reflectivity of building three-stories or higher in the city to a maximum of 15 percent reflectivity. (The Museum Tower glass has a reflectivity rating of 44 percent.) While it is understandable that a building's internal heat load should be reduced to prevent unnecessary energy use, buildings in urban environments do not exist in isolation. They become part of the landscape and inevitably affect the environment around them. With the ever-decreasing SHGC requirements part of ASHRAE 90.1, it is possible that at some point there will not be a glass product that will meet both the IECC requirement and the City of Dallas reflectivity requirement simultaneously.

While the examples cited above are cases in which we as an industry should be aware of and able to adapt to in order to meet our clients' needs, they are by no means an indictment of the sustainability movement. Sustainability, as a philosophy and a practice, is vital to the longevity of the design and construction industries. With finite resources on the planet, it is our ultimate responsibility to further innovations in sustainability, as well as moving forward with design and construction technology. The lessons to be learned are in awareness of how changes in technology and practices affect the various aspects of the day to day business of architecture. In a business where change is seemingly the only constant, it is imperative that we adapt and continue to provide the best service to our clients.

## TAS NEWS - NEW TECHNICAL MEMORANDA

by Mike Ranalletta

The Texas Department of Licensing and Regulation has issued the following Technical Memoranda (TM 2013-19 through 2013-23) to provide guidance and clarification about the requirements of the 2012 Texas Accessibility Standards as it relates to private toilet and bathing rooms, valet parking, employee work areas, and storage. The documents that became effective October 3, 2013 are available for download from the TDLR website

http://www.tdlr.texas.gov/ab/techmemos.htm

TM 2013-19 Private Toilet and Bathing Rooms
TM 2013-20 Valet Parking
TM 2013-21 Employee Work Areas
TM 2013-22 Storage (Kitchens and Kitchenettes)
TM 2013-23 Storage (Not in Kitchens and Kitchenettes)

## HELP ME HELP YOU!

**by Susan Lincoln**

In the movie *Jerry McGuire*, Jerry (played by Tom Cruise) faces his client (played by Cuba Gooding Jr.) and repeatedly states in growing frustration "Help me help you!" We are here to help you; we are here to prepare the specifications to complement your design and drawings. To do that well we cry out "Help me help you!"

Here are two ways that would bring the Specifications into better coordination with the drawings and get the Project Manual completed and organized.

First, it's your design and it's your decisions. As you work on the project you are looking at what products are needed; you are making design selections. Often we are aware of the products and giving us a model number works well. Most often we need more information. The best method for giving us your design selections is to provide a marked Product Data Sheet. Often there are choices that are yours to make. While reviewing the product to determine whether you want it or not, you are already considering the options. We just need to know what those options are.

Many times we are given a web site link. While this initially appears to be a quick way to pass along information, it doesn't always work out that way. Once we arrive at the link, it rarely has all the information we need. What works better is to get the product data sheet from the manufacturer (often just another click or two away), download the PDF, and mark the options and choices you need. These are things about the product that you need to know anyway. You are already doing this work and making these choices, we are only suggesting a better way to share what you've accomplished in your research.

**Help me help you** – send marked Product Data Sheets.

Second, we all know the last minute flurry of compiling all the documents to get them delivered. Just as you are collating the drawings sheets, we collate the specification sections of all consultants for you. As you know, the computer will do this IF the files are all named in the same manner.

These requirements for the specifications will be given to you so you can pass them along to the project consultants.

This includes the file naming convention, other items that are needed, and when to submit.

We will provide a sample section showing the format including the header/footer for the specific project and issue, and we will give the following instructions for the consultants.

1. Provide a MS Word document listing the specifications they are providing. This allows us to cut and paste their section list into the overall Table of Contents.
2. Provide a single PDF file for each individual specification section.
3. Name each PDF file with the section number first then the section name. You may add additional information after the section name if desired.
    - For example, "011000 Summary-13272.pdf." The section number must be in the format shown, that is, no spaces between the six digits.
    - The example shows a job number after the section name. This is optional. You may add text AFTER the section name as you wish
4. Post/Send the PDF file to _____ addressed to _____.
5. Post/Send the files no later than ___ am/pm on _____.
6. Provide a PDF of signed and sealed "Professional Seals" page (as applicable to the bid/permit/construction issue).

## CITY OF DALLAS ADOPTS 2012 IBC and 2009 IECC

**by Doug Hartman**

On November 1, 2013, the City of Dallas became the newest municipality in Texas to adopt the 2012 IBC and 2009 IECC.

Included in the code are a couple of amendments that bear repeating:

**Determination of Wind Loads**

The wind design requirements of Section 1609 have been updated and coordinated with the latest wind load provisions in ASCE/SEI 7 and the wind load maps are now based on **ultimate design wind speeds** (vs **basic wind speed** from previous codes) which produce a strength level wind load similar to seismic load effects. Even though it appears that the design wind speeds have increased from 90 to 115 mph for most of the country, the nominal design wind speed remains unchanged.

**Photo-Luminescent Pathway Markings in Stairwells**

While this was actually adopted in the 2009 IBC, it requires that stairwells in buildings with a top floor higher than 75 feet above adjacent grade be marked with photo-luminescent paint or tape to clearly define edges of steps, top rail of handrails, perimeter of door frames and door operation hardware, and includes way-finding and obstacle demarcation.

**Continuous Insulation (IECC)**

As defined by ASHRAE 90.1, continuous insulation, without breaks or gaps except for fasteners and building service penetrations, is now required in addition to the normal insulation which would be included in the stud cavity. For the 2009 IECC, this means at least an R value of 3.8 (and raises to 7.5 in the 2012 IECC) for metal framed walls. Besides the obvious need to increase the exterior wall cavity to accommodate this layer of insulation, there are other detailing decisions to be made like “does the insulation go behind or on top of the sheathing”, and “how does it install and interact with the air/moisture barrier”, and lastly, “what type/strength of wall fasteners are needed where heavy wall cladding materials like plaster and adhered masonry are hung from the studs”.

# *INSPEC*